

STATE OF MINNESOTA
OFFICE OF HEARING EXAMINERS
FOR THE MINNESOTA ENERGY AGENCY

In the Matter of the Certificate of Need
Application of Owatonna Public Utilities
for a 25-Megawatt Standby and Peaking Gen-
erating Facility.

FINDINGS OF FACT
CONCLUSIONS OF LAW and
RECOMMENDATION

The above-entitled matter came on for hearing before Allan W. Klein, duly appointed Hearing Examiner (hereinafter the "Examiner"), on September 24, 1979 at the City Council Chambers, 540 West Hills Circle, Owatonna, Minnesota, 55060. The hearing continued on September 25th, and concluded in the early hours of September 26th.

William R. McGrann and William E. Flynn of the firm of O'Connor & Hannan, 3848 IDS Tower, Minneapolis, Minnesota, 55402, appeared for the Owatonna Public Utilities Commission of the City of Owatonna, Minnesota (hereinafter the "Applicant"). LeRoy G. Paddock, Special Assistant Attorney General, 303 Capitol Square Building, 550 Cedar Street, St. Paul, Minnesota, 55101, appeared on behalf of the Policy Analysis Staff of the Minnesota Energy Agency (hereinafter "PAS"). After the hearing, James E. Lackner, Special Assistant Attorney General, 720 American Center Building, 160 E. Kellogg Boulevard, St. Paul, Minnesota, 55101, was substituted-as counsel for PAS. Dwight S. Wagenina, Special Assistant Attorney General, 720 American Center Building, and appeared on behalf of the Director and the Director's Staff of the Minnesota Energy Agency (hereinafter the "Director" or "Director's Staff").

The record closed on December 5, 1979 with the filing of posthearing submissions by both the Applicant and PAS.

Based upon all of the testimony, exhibits and briefs, the Examiner hereby makes the following Findings of Fact, Conclusions of law and Recommended order.

FINDINGS OF FACT

A. Procedural History and Parties

1. On May 21, 1979, the Applicant filed with the Minnesota Energy Agency (hereinafter "MEA" or "the Agency") an Application for a Certificate of Need for a 25-megawatt electric generating facility. (Applicant's Ex. 2) on July 6, 1979, a Supplement to the Application was filed by the Applicant. (Applicant's Ex. 3) The Application, as supplemented, was deemed to be "substantially complete" by the MEA Director on July 16, 1979.

2. On June 15, 1979, the MEA issued an Order for Hearing and Notice

TThereof which was proper in form, content, execution and filing.

(Director's

Ex. 1) This Notice was published in the State Register and the EQB Monitor on

June 25, 1979. It provided notice that the hearing would commence on July 30,

1979. (Director's Exs. 2 and 3) On July 12, 1979, the Examiner issued an Order on Motions and Order Rescheduling Hearings. This Order provided notice

that the hearing was postponed to September 24, 1979 and would continue through Tuesday, September 25, 1979, or until all interested parties and

members of the public had an opportunity to present evidence.

(Director's Ex.

6) A Notice of postponement of the Hearing was published in the State Register on July 13, 1979. (Director's Ex. 4) in addition, notice was published in the EQB Monitor on the same date, (Director's Ex. 5)

Notice of

the hearing was also published in five newspapers and it was distributed to various individuals, organizations, and units of State and local government. (Director's Exs. 7 through 10) Finally, the Owatonna People's Press ran a series of articles regarding the public hearing on, September 19, 20 and 23, 1979. (Applicant's Ex. 1)

3. (On June 27, 1979, PAS petitioned the Examiner for leave to intervene in the proceedings on this matter. The Applicant filed a response to the PAS

Petition indicating that it had no objection to this intervention. The PAS Petition was subsequently granted by order of the Examiner dated July 12, 1979

(Director's Ex. 6). Other than PAS, no other parties petitioned to intervene in this matter.

4. On July 7, 1979, a prehearing conference telephone call was conducted by the Examiner in which representatives of the Applicant, PAS and the Director discussed and reached agreement relating to procedural matters, including the use of prefiled testimony. Prefiled testimony was subsequently submitted by the Applicant and PAS and this testimony was bound into the record of the hearing.

5. At the commencement of the hearing on September 25, 1979, the parties were the Applicant and PAS. The Director appeared through counsel and a

representative of his Staff. At the hearing, testimony was presented, both orally and in writing. and all witnesses were made available for cross-examination. Pre-filed direct testimony was received from four witnesses for the Applicant and from one witness for PAS, The Applicant also

called three additional witnesses to testify orally at the hearing. Oral testimony was also received from one witness on behalf of the Power Plant Siting Staff of the Minnesota Environmental Quality Board and written comments

were received into the record from the Minnesota Pollution Control Agency, the

Minnesota Department of Transportation, and the Minnesota Historical Society.

(Pub. Exs. I and); Applicant's Exs. 5A and 5B). Oral testimony was also received from 22 public witnesses, The hearing included two evening sessions

and all persons were afforded ample opportunity to present testimony and evidence. The transcript of the hearing consisted of 384 pages, Thirty-nine

exhibits were submitted into evidence at the hearing and made a part of the record.

6. The transcript was delivered on October 31 and the record closed on December 5.

B. The Applicant and the Proposed Facility

7. The Appilcant for Certificate of Need in this proceeding is the Public Utilities Commission of the City of Owatonna, Minnesota. The Public Utilities Commission was established in 1924 under the authorization of the Owatonna City Charter and is charged with the "entire management and control of water, electric light, power, heat and gas plants and systems now or hereafter acquired by the City, including the building, erecting, constructing and equipping of such plant and systems. . . ." The Commission consists of five

members appointed by the Mayor and approved by a majority of the City council. The Commission approved the Application for Certificate of Need which is the subject of this proceeding by a resolution passed during its regular meeting on May 14, 1979. (Applicant's Ex. 2, p. 1)

8. The present electrical generating system operated by the Applicant consists of six steam turbine electric generating units ranging in size from Unit No. 2 which has a net generating capacity of approximately .5 megawatts to Unit No. 6 which has a net generating capacity of 21 megawatts. The total

net generating capacity of the system during summer peak load periods is approximately 37 megawatts. Of this amount, only 32.3 megawatts are used in

normal operations because Units Nos. 1, 2 and 3, totalling 4.8 megawatts, are

usually kept in cold reserve. In addition to its own generating units, the Applicant maintains an interconnection with the Interstate Power Company of Dubuque, Iowa (hereinafter "IPC") which has a rated capacity of 28 megavolt-amperes. However, demand on the IPC system limits the capacity of this interconnection to five to ten megawatts during the summer when both IPC

and the Applicant encounter their greatest peak load periods. (Applicant's Ex. 2, p. 2)

9. The proposed facility is a package-type, simple cycle combustion gas turbine with a nominal output rating of 25 megawatts. This nominal output rating is based upon standard site conditions of 590 F ambient air temperature

and 14.7 pounds per square inch barometric pressure (sea level). The unit's output varies with changes in site conditions. Adjusting the 25-megawatt nominal output rating for elevation and hot summer ambient air pressure in Owatonna results in a peak period output of approximately 21 megawatts. This

size was chosen for the proposed facility since one of its principal functions

will be to provide a standby power source for Unit No. 6 which is a 21-megawatt

unit. (Applicant's Ex. 2, p. 10).

10. VW. David M. Martin, General Manager of the Applicant, further described the proposed facility as Basically a jet engine (which has been modified to make it more fuel efficient) connected to an electrical generator. He testified that the primary advantage of this type of facility

is that it can be constructed and installed at a low kilowatt cost and will be

available for usage on a very "quick-start" basis. He also testified that the

physical size of the unit will be approximately 50 feet long and from 12 to 15

feet wide. (Tr. 12-13) 1

11. The capacity cost of the proposed facility is estimated at \$200 per kilowatt in current dollars for a total cost estimate of not more than \$5 million. (Applicant's Ex. 2, p. 24) This projection on the part of the Applicant appears to be reasonable and, in fact, conservative, based upon a

1References to the transcript of the September, 1979 hearing will be as follows: (Tr.

review of several estimates submitted to the Applicant by suppliers of gas turbine generators. Two price quotations submitted to the Applicant by General Electric Company indicate that a gas turbine unit in the general size range projected by the Applicant would cost approximately \$3.5 million. This price would include installation, foundations, and a grounding grid for the unit. (Applicant's Exs. 9(A) and (B)). A separate estimate was submitted by United Technologies, also a manufacturer of gas turbine generators, which indicated that for a 30-megawatt unit the cost would be \$4,735,000 which would include erection on customer furnished foundations. (Applicant's Ex. 4, Attachment B (II)). Based upon these Exhibits, construction of the proposed facility should cost no more than \$5 million as estimated in the Certificate of Need Application.

12. The anticipated operating cycle of the proposed facility is from 320 to 1,255 hours per year during the time period from 1981 to 1988. This projection includes an estimated peaking duty of from 220 to 1,155 hours per year over the same period, together with an estimated 100 hours of operation per year in the standby function. This relatively low operating cycle is a result of the planned function of the proposed facility to be a quick-start power source to provide standby for Units Nos. 5 and 6. A secondary function of the facility is to provide peaking capacity to augment operational steam turbines in one Owatonna plant during peak loads. (Applicant's Ex. 2, pp. 10-11).

13. The 25-megawatt generating unit proposed to be built by the Applicant would be capable, either initially or with minimal retrofit, of burning several types of fuels, including fuel oil, natural gas, methanol or ethanol. The fuel to be used at any particular time would be chosen by the Applicant on the basis of economics and availability. (Tr. 18). The Applicant submitted as exhibits at the hearing several letters received by the Applicant from gas turbine manufacturers relating to alternative fuel capabilities of gas turbines. These included a letter from General Electric dated August 31, 1979, which indicated that it would be able to furnish to the Applicant a gas turbine which would have triple-fuel capability allowing it to burn natural gas, distillate oil, and methanol. (Applicant's Ex. 4, Attachment B(I)). Also submitted at the hearing was a September 18, 1979 letter from United

Technologies. This letter indicated that the United Technologies industrial

Gas Turbine "is readily adaptable to burning methanol or ethanol in addition

to natural gas and #2 fuel oil." (Applicant's Ex. 8).

14. In order to include the capability to burn methanol as an alternative fuel, special design features will need to be incorporated into the design of

the proposed generating facility. However, the Applicant has indicated that,

"It is the intention of Owatonna Public Utilities to include the ability to

burn methanol as an alternative fuel in the specifications for the proposed

LEGF." (Applicant's Ex. 4, p. 22). Moreover, the Applicant's Board of Directors has expressed an intention to explore with other entities the possibility of developing a methanol or ethanol producing plant in the Owatonna area. (Applicant's Ex. 4, p. 22)

15. It is presently anticipated that the Applicant's proposed 25-megawatt generating facility will be integrated into the future generating system of

the Southern Minnesota Municipal Power Agency (hereinafter "SMPMPA"). SMPMPA is

an organization of 22 southern Minnesota municipalities, including the City of

Owatonna, which has been formed to jointly plan for and meet the power and

energy needs of its municipal members. Presently, SMPMPA is planning the construction of a coal-fired generating plant or plants with a nominal output

rating of up to 400 megawatts. (Applicant's Ex. 4, p. 18). Mr. David Martin,

General Manager of the Applicant and a member of the SMPMPA Board of Directors,

testified at the hearing that the Applicant's plans for a combustion turbine

"are fully compatible with the needs of SMPMPA". (Tr. 145) He explained that the proposed facility would be "accredited" by SMPMPA at a given power output

and that based upon this accreditation, SMPMPA would pay the Applicant an amount sufficient to cover the fixed and operating costs of the unit. SMPMPA

would then dispatch power from the facility to meet its system-wide needs.

Witness Martin explained that the quick-start capability of the facility would make it attractive for inclusion in the SMPMPA system, stating the facility would "have the advantage of providing them with reserve power to meet their reserve power requirement without forcing the utility to keep units

in spinning reserve." (Tr. 148) A Resolution of the SMPMPA Board of Directors, dated September 5, 1979, expressing that Board's support for the Applicant's proposed 25-megawatt facility was introduced at the hearing.

(Applicant's Ex. 7)

C. Applicable Criteria

16. Minn. Stat. 116H.13 (1978) sets forth the basic statutory framework

for the Certificate of Need process. Subdivision 1 of that section directs

the MEA Director to promulgate criteria to be used in assessing need.

Pursuant to that mandate, the Director has adopted the criteria found at 6 MCAR 2.0611 C. These criteria, designed specifically for large electric generating facilities, are based upon the more general criteria set forth in

subdivision 3 of section 116H.13. Section 2.0611 C. provides as follows:

C. Criteria. A certificate of need shall be granted to the applicant if it is determined that:

1. The probable result of denial would be an adverse effect upon the future adequacy, reliability, or efficiency of energy supply to the applicant, to the applicant's customers, or to the people of Minnesota and neighboring states, considering:

a. the accuracy of the applicant's forecast of demand for the type of energy that would be supplied by the proposed facility;

b. the effect of the applicant's existing or expected conservation programs and state and federal conservation programs;

c. the effects of promotional practices of the applicant which may have given rise to the increase in the energy demand, particularly promotional practices which have occurred since 1974;

d. the ability of current facilities and planned facilities not requiring certificates of need to meet the future demand; and

e. the effect of the proposed facility, or a suitable modification thereof, in making efficient use of resources;

2. A more reasonable and prudent alternative to the proposed facility has not been demonstrated by a preponderance of the evidence on the record by parties or persons other than the applicant, considering:

a. the appropriateness of the size, the type, and the timing of the proposed facility compared to those of reasonable alternatives;

b. the cost of the proposed facility and the cost of energy to be supplied by the proposed facility, compared to the costs of reasonable alternatives and the cost of energy that would be supplied by reasonable alternatives;

c. the effects of the proposed facility upon the natural and socioeconomic environments compared to the effects of reasonable alternatives; and

d. the expected reliability of the proposed facility compared to the expected reliability of reasonable alternatives;

3. It has been demonstrated by a preponderance of the evidence on the record that the proposed facility, or a suitable modification thereof, will provide benefits to society in a manner compatible with protection of the natural and socioeconomic environments, including human health, considering:

a. the relationship of the proposed facility, or a suitable modification thereof, to overall state energy needs;

b. the effects of the proposed facility, or a suitable modification thereof, upon the natural and socioeconomic environments compared to the effects of not building the facility.

c. the effects of the proposed facility, or a suitable modification thereof, in inducing future development; and

d. the socially beneficial uses of the output of the proposed facility, or a suitable modification thereof, including its uses to protect or enhance environmental quality; and that

4. It has not been demonstrated on the record that the design, construction or operation of the proposed facility, or a suitable modification thereof, will fail to comply with relevant policies, rules and regulations of other state and federal agencies and local governments.

Subdivision 3 of section 116H.13 indicates that the burden of justifying the need for the generating facility is on the Applicant, stating: "No proposed large energy facility shall be certified for construction unless the applicant has justified its need."

17. The record evidence adduced at the hearing on this matter with respect to each of these criteria will be reviewed to provide a proper factual

oasis for the conclusions which are reached below.

Application of Criteria to the Proposed Electrical Generating Facility.

(a) Need for the Proposed Generating Facility

18. Important factors in assessing the need of the Applicant and its customers for the proposed facility are found in both the existing and the forecasted electrical demand situation faced by the Applicant. Under the demand situation, as it presently exists, the Applicant does not have sufficient reserve power sources to continue to maintain electrical service

for its customers when normal power sources are lost due to forced outages or

are shut down for scheduled maintenance. TO assure system dependability, the

Applicant must have available adequate reserve capacity to serve system loads

when the largest power source is shut down. For the Applicant, the largest power source is Unit No. 6, which has a summer rating of approximately 21

megawatts. Under generally accepted utility planning principles, the

Applicant should have a reserve source immediately available for loss of this

unit. (IT. 137).

19. The present deficiency can best be illustrated by examining the exposure to system curtailment which the Applicant experiences during summer

peak load periods. During the 1978 summer peak load period, for example, the

calculated system net 60-minute peak was 31.5 megawatts and the operating capacity available was net generation of 32.3 megawatts provided by Units Nos.

4, 5 and 6, plus service from IPC within the limitations of the transmission

facilities. Units Nos. 1, 2 and 3 were in cold reserve and several hours would have been necessary to put these units on the line as a replacement power source. If Unit No. 6 had experienced a forced outage during the peak

load period, the quickly available power sources would have been the remaining

on-line generating capacity of 12.2 megawatts, plus whatever electrical

service that could have been delivered to the Applicant by IPC. If only five

megawatts could have been delivered by IPC, the total power sources would have

been 17.2 megawatts resulting in a 14.3 megawatt short-fall in meeting system

peak load requirements. If as much as ten megawatts could have been delivered

by IPC, a short-fall of 9.3 megawatts would still have prevailed and, in either case, service curtailments would have resulted. (Applicant's Ex. 2, pp. 43-44)

20. The IPC interconnection that the Applicant maintains is not sufficient to alleviate this present deficiency. While this interconnection is rated at 28 megavolt-amperes maximum, the limitations of the IPC transmission system limits the capacity of this tie to as little as five to ten megawatts during the critical summer peak load period. The firm power customers of IPC have priority on the capacity of its transmission system and the growth of these firm power loads has encroached upon the system capacity available to supply the Applicant with the non-firm service supplied under the interconnection agreement. (Applicant's Ex. 2, p. 41) This was explained in the testimony of Mr. Philip Fuller, president of Pfeifer and Shultz/HDR, Inc., the engineering consultant for the Applicant, as follows:

The largest source in the OPU system is Unit No. 6 which is a steam turbine generator rated 21 MW. If this unit were lost during OPU system peak load periods, the system would depend upon Units 4 and 5 plus the interconnection with IPC for power sources. As the OPU and IPC systems both have peak loads during hot summer weather, there is insufficient transmission line capacity for IPC to serve its own firm power customers and also deliver 21 MW to replace Unit No. 6; and exposure to service curtailment in Owatonna results. (Tr. 281T)

21. It is also evident that the present deficiency cannot be met by the Applicant's units which are kept in cold storage. As witness Fuller testified, it would take a significant amount of time to prepare these units to be brought on-line in order to meet a forced outage of the largest unit,

Unit No. 6. He testified that the time required to bring a unit from cold

reserve status to full operating status is approximately one hour for each 100 degrees of boiler temperature. Since Units Nos 4 and 5 operate with a boiler temperature of approximately 750 degrees, Mr. Fuller estimated that it would take from 7 1/2 to 8 hours to place these units in operating condition. (Tr.

310) By way of contrast, the proposed gas combustion turbine could be brought from cold reserve to operating status in a period of from five to ten minutes. (Tr. 311) In addition, Units 1, 2 and 3 are old. They are scheduled for retirement in 1983 at which time they will have been in service for 55, 59 and 45 years, respectively. (Applicant's Ex. 2, p. 43)

22. The scope of the present deficiency in reliability on the Applicant's system is illustrated in an exhibit submitted as a part of the pre-filed testimony of Mr. David Martin. A table submitted with his prefiled testimony illustrated the number of hours per year that the system would have been exposed to curtailment had the largest generating unit experienced an outage. This table indicates that these exposure hours ranged from 117 hours in 1974 to 615 hours in 1978. (Tr. 139) These deficiency hours for the period from 1974 through 1978 are based upon actual demand experienced by the Applicant's system during this time frame. As the table sponsored by Witness Martin indicates, these deficiency hours will grow in the future as demand and consumption on the Applicant's system grow.

23. The historical forced outage rates for Units Nos. 5 and 6 establish that the risk of forced outage is a realistic one which must be taken into account in responsible planning by the Applicant. The historical figures submitted by the Applicant establish that for the period from June 8, 1974 through August 15, 1979, Unit No. 6 experienced a forced outage on 16 different occasions. The forced outage rates in hours per year for Unit No. 6 range from 96 hours in 1974 to 274 hours through the first eight months of 1979. The forced outage rate for Unit No. 5 for the first eight months of 1979 was 615 hours (Applicant's Ex. 4, pp. 12-13).

24. It is found that there is a need for the proposed 25-megawatt generating facility to assure continued service reliability for the Applicant's service area. It is evident that a reliable source of electrical service is necessary to the continued health and welfare of the residents of

the City of Owatonna and to maintain the quality of life and economic viability of this community. This is confirmed by numerous specific examples cited in the testimony of public witnesses relating to the consequences of an interruption in electric service. Without attempting to be all-inclusive, some of these examples are set out below.

25. Pt. Ken L. Nissen, Owatonna Chief of Police, testified that a loss of electricity "would be utterly (sic) chaos" in that such crime prevention devices as intrusion alarms and street lighting, as well as police communications and entry and exit to one law enforcement building would be adversely affected by a power outage. (Tr. 76-78)

26. Mr. Frank B. Anderson, Owatonna Fire Chief, testified that the City Volunteer Fire Department is "in dire need . . . (of) electricity 24 hours a day." He explained that the Department's pagers are operated by electricity and without it they would be unable to alert their firemen; and also that the firehouse doors are opened by electricity, the loss of which would cause delay

in getting to a fire. He also explained that even a reduction in current affects electric motors with the result that there is an increased chance of electrical shorts and the motors burning and starting fires. (Tr. 92-94)

27. Mr. Howard L. Pace, Administrator of Owatonna City Hospital, testified that his hospital "is highly dependent on an adequate and constant supply of electrical power." He explained that the reliability of hospital life support equipment is affected by a fluctuation in excess of plus or minus 10% in voltage and that this "can directly affect a patient's chance of survival." He further explained that while the hospital has an emergency backup system, this does not serve to eliminate the problem of voltage fluctuation nor does it provide reserve power for all hospital functions. (Tr. 104-107)

28. Mr. Gerald Boos, owner-operator of radio station KPFO, testified that because this station is "the civil defense station, we feel and know that it is absolutely essential that we have an uninterrupted source of power for not only our studios, but our transmitters as well." He testified that at the present time the radio station does not have a backup generator and that even with such a generator there would be at least a 3 1/2-minute interruption in transmission which could be critical in an emergency situation, such as a tornado. (Tr. 94-95)

29. Mr. Art Kroft, Chairman of the Senior Center Committee, testified to the inconvenience and hazards that an electricity outage would cause to senior citizens in the Owatonna nursing homes and indicated that "when it gets down to 10 to 20 degrees below zero here in Minneosta", electricity is an absolute necessity. (Tr. 79-82)

30. Numerous examples of the adverse consequences of a power interruption were provided by representatives of the Owatonna business community. Mr. Harold Landsman, Vice-President of Manufacturing, Viracon, Inc., testified that their glass fabricating process "cannot tolerate interrupted electricity." (Tr. 38) Mr. Chad Lange, of Owatonna Canning Company, testified that because his company processes perishable farm products, an interruption in power for even one day could potentially cause a loss of \$100,000 or more. (Tr. 84) R. W. Kaplan, president of Owatonna Tool Company, testified that his company's manufacturing processes are "totally dependent upon electricity" and estimated that any time the plant is down for any reason, it costs the company in excess of \$10,300 per hour. (Tr. 113) in addition, numerous business representatives testified to the importance of uninterrupted electricity to the continued maintenance and operation of their computerized data processing systems. The best explanation of the impact of a power loss on modern computer systems was provided by Mr. Perry Jurgens, Manager of Technical Services at Jostens, Inc. After testifying that Jostens had recently located their centralized computer system in Owatonna and explaining the importance of daily computer processing to Jostens, Mr. Jurgens testified that even brief electrical outages will cause more extensive data

processing interruptions because data subsets and other materials must be re-entered after even a short outage, resulting in "a great deal of business disruption." (Tr. 238-240)

31. While it is a basic axiom that reliable electrical service is

necessary to the health and welfare of a community, the specific factual examples set out above graphically highlight this fact and serve to underscore

the critical need presented by the existing service deficiency in the Applicant's electrical generating system. The examples set out above support

a finding that serious adverse impact would result from a denial of the application which is the subject matter of this proceeding. This finding is further supported by an examination of the future demand that is projected for

the Applicant's system, the conservation activities which the Applicant has undertaken, and the potential of other facilities to meet the critical reliability needs of the Applicant's system. Each of these considerations will be examined in turn.

Forecasted System Demand

32. In support of its Application for Certificate of Need, the Applicant

sponsored a demand and energy consumption forecast for the period through 1994. This forecast was prepared by R. W. Beck and Associates and was described at the hearing by Mr. Robert Pearson, Senior Economist for the Minneapolis office of this consulting firm. He explained that the forecasting

methodology used to prepare this forecast was a three-stage econometric model. Witness Pearson described this as follows:

First, residential KWH per customer is forecasted using a cross-section time series econometric analysis. Forecasts of usage per customer are then multiplied by published forecasts of the number of households to obtain projected residential consumption. Then an econometric relationship between residential and total consumption is established for the base period. Forecasts of residential energy use are then translated to forecasts of total energy use via that relationship. The third stage consists of translating the energy forecast to demand forecasts. A relationship between demand and energy is established for the base period and then the forecasts of total energy are used to obtain peak forecasts. (Tr. 256)

33. The forecasted system requirements show an initial growth rate of

approximately four percent annually with a general slowing thereafter resulting in a compound growth rate of approximately 2.5 percent during the 1980-1994 forecast period. (Applicant's Ex. 3, p. 11) This is in contrast to

the growth experienced by the Applicant during the period from 1959 through 1973 where Owatonna experienced a peak demand increase of 9.1 percent per year

on the average and a similar average annual increase in energy consumption of

8.45 percent per year. (Applicant's Ex. 3, p. 10) The projections contained

in Applicant's demand forecast indicate that system peak demand will grow from

a level of 31.5 megawatts in 1978 to a level of 45.7 megawatts in 1994.

(Applicant's Ex. 3, P. 46)

34. A similar, although not entirely identical, forecast was sponsored by

PAS in this proceeding. One of the major differences between the two

forecasts is that PAS assumed a growth rate of 4.5 percent for the

non-residential sector based upon its judgment and an evaluation of historical

trends, while the forecasts submitted by the Applicant assumed a stable relationship between residential and non-residential consumption which would continue into the future. As a consequence of this difference, the PAS

forecast indicated that total projected consumption would grow at

approximately 4.5 percent per year for the non-residential sector, while the

Applicant's projection is somewhat less. This results in a PAS forecast which

indicates that there will be a future annual growth rate of 3.4 percent per year. (Tr. 344) Under the PAS forecast, the peak demand for 1994 is projected to be 53.2 megawatts. (PAS Ex. 2, p. 18)

35. There has been considerable testimony in this proceeding that the differences in the forecasts submitted by the Applicant and PAS are not statistically significant. For example, Mr. David W. Buller, Research Scientist for PAS, testified that a difference of two percent in the growth rate for a utility such as Owatonna would only mean a difference in the actual

peak of 3.5 megawatts in a five-year period and that "the decision to build a

25-megawatt oil-fired plant likely will be based on factors other than a few

megawatt differences in the forecast." (Tr. 347) Witness Buller also testified that in this proceeding, the forecasts are relatively unimportant because the need exists at present without any future growth in the system. (Tr. 364) The judgment of Witness Buller on behalf of the PAS was confirmed

by the testimony of the Applicant's Witness, Robert Pearson, who testified that "the differences in the forecasts made by the Policy Analysis Staff and

our firm are not statistically significant." (Tr. 258) Thus, the forecast of

future demand and consumption on the Applicant's system are sufficiently accurate for the purposes of the decision which must be reached as to need in

this proceeding. moreover, it is important to note that under the PAS forecast, which indicates a greater future demand than the Applicant's forecast, the system's exposure to forced outage will be exacerbated. In the

judgment of PAS, its "higher forecast would indicate even a greater need for OPU to obtain an additional application (sic) of power." (Tr. 365-366)

Conservation Programs

36. With respect to the criterion of the effects of the Applicant's existing or expected conservation programs, a number of factors indicate that

conservation will not alleviate the present deficiency in the Applicant's generating system. First, an energy conservation program focussed on electrical consumption has already been initiated by the Applicant in response

to its reliability deficiency. (Tr. 133). This led to the establishment of

the Owatonna Commercial and Industrial Energy Committee in 1978 which has as

its primary objective the promotion of energy conservation for commercial and

industrial energy users. (Tr. 42). The activities of this Committee have promoted an awareness of the importance of energy conservation and have led to

the adoption of numerous conservation techniques by commercial and industrial

energy users. (See, generally: Pub. Ex. 3) Also, the Applicant has established a Residential Energy Committee which has as its primary purpose the promotion of energy conservation in the residential sector. (Tr. 117) These conservation efforts undertaken by the Applicant are not expected to alleviate the growth in demand and consumption that is forecast for the Applicant's system, nor will they alleviate the present deficiency in

reliability on the system.

37. This factual finding is further supported by numerous examples presented in the testimony of public witnesses with respect to the unusually aggressive conservation activities undertaken by substantial users of the Applicant's system. While these witnesses have testified as to the conservation activities, their general consensus is that their future plans

for expansion will more than off-set the reduced energy demand promoted by their conservation. For example, this was the testimony of Mr. Mike Viola on

behalf of Owatonna Tool Company. He described the extensive conservation

activities which have been undertaken by this company and which led to

Owatonna Tool Company being awarded a regional award for State Energy

management in 1977. However, he went on to testify, as follows:

It is our feeling that these efforts in the future will continue to improve our energy conservation program. However, we do not feel we can lower our peak demand below the 1978 level for an extended period of time. My estimate would indicate that an 18 percent reduction in our peak demand, fully implemented in three years, would be off-set by company growth, leaving an average annual increase in demand of 4.8 percent. (Tr. 112)

38. This same situation was also illustrated in the testimony of Mr.

James Dunnum on behalf of Wenger Corporation. He described the conservation

activities of that company which led to Wenger Corporation receiving the

Energy Savers Award of Excellence in 1977. (See, Pub. Ex. 4) However,

Witness Dunnum, as well, went on to testify, as follows:

At the same time, since 1977, Wenger Corporation has expanded two times, so even though we are conserving energy every day, we still -- our energy consumption has continued to grow since 1977. (Tr. 48)

Witness Dunnum further indicated that while Wenger had effected a reduction of

approximately 50 percent in their electrical consumption from the period from

1973 through 1977, "It would be very difficult to get another 5 percent."

(Id.) This "bottoming-out" of conservation effectiveness, or decreasing

marginal return from successive conservation measures, was confirmed in the

testimony of Mr. David Martin. (Tr. 193) This phenomenon provides further

support for the finding that conservation will not alleviate the Applicant's

need for a new generating facility.

Promotional Practices

39. With respect to the effects of Applicant's promotional practices

which may have given rise to the increase in energy demand, there is no evidence in the record to indicate that the Applicant engaged in any promotional practices which would increase energy demand. Moreover, there is

evidence that the Applicant has not engaged in any promotional practices

whatsoever. This evidence is found in the extensive conservation activities

underaken by the Applicant and is reflected in the testimony of Mr. James

Dunnum who stated:

I would say the Owatonna Public Utilities has always promoted energy conservation since my involvement with this entire program. It hasn't been unnecessary use of electricity because it is cheap and we want to sell it. That's not the case. (Tr. 50)

Other Facilities

40. With respect to the ability of current and planned facilities to meet

the reliability deficiency on the Applicant's generating system, the evidence

indicates that there are no such facilities currently existing or in the

planning stage which would meet the future projected demand. Mi. David

Martin, General Manager of the Applicant, testified that he had contacted

other utilities in the geographic area regarding their current and future

transmission construction plans and that "the general consensus given to OPU

was that no immediate plans were being formulated to relieve the transmission problems of the OPU area." (TY. 134) Witness Martin also testified that he is a member of the Southeastern Minnesota Transmission Study Group which is currently studying transmission concerns in southeastern Minnesota. He testified that there have been no concrete proposals to come forth from that group which would meet the short range, intermediate range, or long-range needs of Owatonna. (Tr. 142)

Efficient Use of Resources

41. The final factor to be considered in evaluating the need for the proposed facility is the effect of the facility in making more efficient use of resources. With respect to this factor, the evidence establishes that if an adequate quick-start standby power source were available to the Applicant, units which are presently operated by the Applicant in spinning reserve for quick availability in case of emergency could be shut down with a resultant increase in the load factor and efficiency of the operational units. (Applicant's Ex. 2, p. 17) At the present time, the Applicant operates steam turbine generators (fueled by either natural gas or fuel oil) when they are not needed to carry load but only to be available during peak periods and to provide for standby for Unit No. 6. The proposed facility would displace both these functions of the steam turbine generators, resulting in the operation of fewer units, more efficient loading of operational turbine generators and reduced consumption of natural gas or fuel oil during certain system load periods. (Applicant's Ex. 2, p. 6) Additionally, it is found that the anticipated capability of the proposed facility to burn several types of alternate fuels, including natural gas, fuel oil and methanol, will enhance the capacity of the facility to make efficient use of resources.

Alternatives to the Proposed Generating Facility

42. The second criterion to be considered relates to reasonable and prudent alternatives to the proposed facility and requires a comparison of the Applicant's proposal to other alternatives considering: (a) the appropriateness of the size, the type, and the timing of each; (b) the cost of each as well as the cost of energy to be supplied by each; (c) the impact upon the natural and socioeconomic environments of each; and (d) the expected reliability of each alternative. In this proceeding, a number of alternatives have been discussed although the record reflects that each of the alternatives to the Applicant's proposal either cannot be considered reasonable and prudent or would not compare favorably with the Applicant's proposal in terms of the considerations set out above. The alternative facilities that have been discussed in this proceeding include: (a) three 8.6-megawatt units; (b) three 7-megawatt diesel units; (c) an upgrading of the Applicant's interconnection

with IPC at Hayward, Minnesota; (d) an upgrading of the transmission line from Owatonna to Zumorota, Minnesota; and (e) wind generation. Each of these alternative facilities will be examined and compared with the Applicant's proposal in order to form a basis for findings with respect to this criterion.

Three 8.6 Megawatt Units

43. This alternative consists of three (3) package-type, oil-fired, simple-cycle, gas turbines each having a nominal output rating of 8.6 megawatts. During summer conditions in Owatonna, this would result in a total

peak period output of approximately 21.5 megawatts. The size and configuration of these units would allow for their utilization to meet the present need of the Applicant to provide a standby power source for the loss of Unit No. 6, as well as an additional peaking power source for the Applicant's system. Starting and stopping the units in staggered sequence to meet varying peaking requirements would increase the efficiency of the units as compared to operating the single turbine proposed by the Applicant over a wide load range. However, the time required to respond to a major emergency would probably be slightly longer with the multi unit configuration. (Applicant's Ex. 3, pp. 1-2) The reliability of the alternative of three (3) smaller combustion gas turbines and their impact on the natural and socioeconomic environment is not protected to be significantly different than

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that of the Applicant's proposed facility. (See, generally: Applicant's Ex. 3, pp. 50-55; Applicant's Ex. 2, pp. 73-80) However, as noted by the Applicant's environmental consulting engineer, Mr. Bruce A. Labno, in contrast to the Applicant's proposed facility, an NOx control system is not available at this time for the smaller units. (Tr. 221) The critical distinguishing factor between this alternative and the Applicant's proposal is the cost factor. The capacity cost of the three (3) gas turbines is estimated at \$315 per kilowatt in current dollars or a total cost of approximately \$8.13 million. (Applicant's Ex. 3, p. 3) This is in contrast to an estimated cost for the proposed twenty-five (25) megawatt facility of \$200 per kilowatt or a total cost estimate of not more than \$5 million. Considering this cost difference, the alternative of three (3) smaller units has not been demonstrated to be a more reasonable and prudent alternative than the proposed facility, particularly in light of the fact that there are no other significant advantages of this alternative compared to the Applicant's proposal.

Three 7-Megawatt Diesel Units

44. This alternative consists of three (3) diesel engines, each having a nominal output rating of approximately seven (7) megawatts. The nominal output rating of each unit would not be affected by summer or winter conditions resulting in a total output of approximately twenty-one (21) megawatts. The size and configuration of these units would allow for their utilization to meet the present need of the Applicant to provide a standby power source for the loss of Unit No. 6, as well as an additional peaking power source for the Applicant's system. Starting and stopping the units in

staggered sequence to meet varying peaking requirements would increase the efficiency of the units as compared to operating the facility proposed by the Applicant over a wide load range. Matching the number of units in operation to load requirements may result in somewhat lower fuel consumption than that of the proposed facility. (Applicant's Ex. 3, pp. 5-6) The reliability of the alternative of three (3) diesel engines-and their impact on the natural'-and socioeconomic environment is not projected-to be significantly different than that of the Applicant's proposed facility. (See, generally, Applicant's Ex. 3, pp. 56-60; Applicant's Ex. 2, pp. 73-80) Again, however, a NOx control system would not be available at this time for these smaller units. (or. 221) Again also, the critical distinguishing factor between this alternative

arid the Applicant's proposal is the cost factor. The capacity cost of the three (3) diesel engines is estimated at \$450 per kilowatt in current dollars

or a total cost of approximately \$9.5 million (Applicant's Ex. 3, p. 7), in contrast to an estimated cost for the proposed facility of not more than \$5 million. Considering this cost difference and the equality of this alternative and the proposed facility in the other areas of consideration, the

alternative of three (3) diesel engines has not been demonstrated to be a more

reasonable and prudent alternative than the proposed facility.

Upgrading the Hayward Interconnection to IPC

45. A third alternative discussed on the record in this proceeding is the

alternative of upgrading the Applicant's interconnection with IPC at Hayward, Minnesota.

For a number of reasons, the upgrading of this interconnection cannot be seen as a satisfactory solution to the present need of the Applicant. The most important reason for this is that the point of interconnection between the two systems, the Hayward substation, is not a source of sufficient power for the Applicant's system. A second important reason is that the interconnection proposed would require over thirty (30) miles of new high-voltage transmission line at an estimated cost of \$3.6 million. In addition, a substation would need to be constructed at the Owatonna terminus of the line at an estimated cost of \$1 million, as well as a

breaker and a bay added on the Hayward terminus of the line, estimated at approximately \$400,000. The total cost of the Hayward interconnection upgrading would then be in excess of \$5 million (Tr. 290-291). Third, this new line could not use existing right-of-way or follow an established transmission corridor giving rise to a fear of potential protracted administrative proceedings and environmental litigation before construction of the line could begin. (Tr. 135) Mr. Allen Jaisle, manager of the Power Plant Siting Program for the MEQB, testified at the hearing that "There will be very serious difficulties in constructing future transmission lines, especially those requiring new right-of-way acquisition." (Tr. 205-206)

The

regulatory and litigation lag which construction of a transmission line would

entail means that the time-frame for construction of this line, by itself, would preclude its consideration as a viable alternative to meet the Applicant's existing deficiency. Fourth, testimony submitted on the record in

this proceeding indicates that, on balance, the environmental consequences of

a new transmission line through prime agricultural land in southern Minnesota

would be more extensive than the environmental impact of the Applicant's proposed facility. (Tr. 218-220) Finally, even if the interconnection with Hayward was upgraded, this source would only serve as a temporary solution for

the needs of the Applicant for it is projected that future growth and demand on the IPC system will make the Hayward substation an insufficient source of power within the next three (3) to four (4) years. Moreover, there are no present plans of Ipe to upgrade the Hayward substation (Tr. 194-195). As a consequence, the upgrading of this line would only be a temporary solution and

one which would not be consistent with the long-range transmission plans for the southern Minnesota area, including the plans of SMMPA.

New Transmission Line to Zumbrota, Minnesota

46. A second transmission line alternative proposed for consideration in

this proceeding is construction of a transmission line from the City of Owatonna to the City of Zumbrota, Minnesota. PAS proposed this alternative for consideration based upon the assumption that it would cost approximately \$3.8 million to construct this transmission line in comparison to an estimated \$5 million cost for the Applicant's proposed facility. (Tr. 348) However, there was evidence submitted on the record in this proceeding that the cost of making this new connection would be substantially in excess of \$3.8 million. Mr. Philip Fuller, consulting engineer for the Applicant, testified that, in addition to the line itself, there would be a need to construct a transformer and "tap" at Zumbrota in order to make the line operational. The estimate of cost for the construction of this tap alone was nearly \$5 million, in the judgment of Fuller. As a consequence, the total cost for this alternative would be nearly \$8.8 million. (Tr. 295-296) In addition to this cost disadvantage, this alternative would also carry with it all of the disadvantages discussed with respect to the transmission line upgrading between Owatonna and the IPC system at Hayward, Minnesota. To summarize, the regulatory lag for construction for such a line could be several years with the result that the timing of this alternative cannot be considered appropriate; also, the impact of the natural and socioeconomic environment of this line would also be expected to be substantially more adverse than that of the Applicant's proposed facility. As a consequence, this alternative is not found to be a more reasonable and prudent alternative than the proposed facility.

Wind Generation

47. The final alternative suggested by PAS is the possibility of using wind generation to meet the present needs for additional power and energy on the Applicant's system. However, this alternative is not found to be feasible based upon the state of the art and technology at the present time. Testimony submitted on the record in this proceeding indicates that one of the largest operational wind generators in use is the one located in the Boone, North Carolina, area. This wind generator consists of two (2) propeller blades, each 100 feet long, located on a hilltop in the Smokey Mountain area. In spite of the imposing size of this presently operational facility, the generation obtained from this facility, when the wind blows, is only two (2) megawatts (Tr. 149). There has been no evidence submitted to show that the

present state of the art is such that a wind generator capable of generating twenty-five (25) megawatts of electricity could be considered even feasible at this time. Moreover, a serious problem is presented with this type of facility in that for use in the standby and peaking mode, it would not significantly add to reliability since generation from this facility would depend upon whether the wind was blowing at the time the generation was needed.

48. In contrast to the one of more particular disadvantages noted with respect to each of the alternatives-discussed above, the twenty-five (25) megawatt unit proposed by the Applicant clearly has advantages in each of the areas listed as consideration in 6 MCAR 2.0611 C.2. Each of these areas will be discussed as further support for the finding that a more reasonable and more prudent alternative to the proposed facility has not been demonstrated.

49. As previously reflected in Finding 9, above, the proposed facility is appropriate in size since its effective output of twenty-one (21) megawatts during summer peaking conditions closely matches the output of Unit No. 6, for which it is to provide a standby power source. (Tr. 317) It is an appropriate type of facility since it will well serve the Applicant's need for a "quick-start" unit to provide emergency standby power. With respect to the timing of the facility, the Applicant's proposal is planned for operation by the summer of 1982. (Tr. 16) This is at least as prompt a time-frame as any of the alternatives discussed above and thus, best responds to the present need of the Applicant.

50. With respect to the cost of the proposed facility and the cost of the energy to be supplied by the facility, the facility proposed by the Applicant is again relatively advantageous as compared to the other alternatives considered in this proceeding. The capital cost of approximately \$5 million for construction of the facility is the lowest of the alternatives considered. Capital cost is a significant factor because of the proposed use of the facility which is to serve as a standby and peaking unit, with only limited operation each year. Because of the limited operational mode proposed for the facility, capital costs are relatively more important than operating costs in analyzing the cost of energy to be supplied by the proposal. The costs of operating the combustion turbine during 1982, when used as a standby unit, has been calculated to be between 3.5 mills to 4.2 mills per kilowatt hour, or from \$1.75 per month to \$2.10 per month based on an average use of 4500 kilowatt hours per customer. (Tr. 136) The cost of energy when using the proposed facility in both the standby and peaking mode to produce 5,867,355 kilowatt hours in the year of 1988 was also projected. This projection established that the incremental cost of the facility per kilowatt hour would be approximately 9.2 mills, or a \$4.60 incremental cost on a 500-kilowatt hour monthly bill. (Tr. 322-323) However, several important factors deserve to be noted with respect to this projection. First, testimony of the Applicant through its witness, Mr. Fuller, indicates that the facility would only be used in the peaking mode when it is the cheapest alternative

available to provide energy for peaking. (Tr. 324) Of course, the cost of fuel could change beyond the cost projected. Second, selection of the year 1988 for purposes of projection presents a scenario where the requirement for peaking power will be the highest in comparison to other years. In years where there is less of a requirement for peaking power and the facility is operated primarily in the standby mode, the unit will actually have "decremental cost" when the offset for demand charge savings is taken into account. (Tr. 335) The demand charge savings arises from the fact that a quick-start unit is counted in a utility's reserve capacity requirement, which is usually 15 percent of peak demand. Thus, this type of facility allows the utility to forego paying a demand charge to another utility in order to have this reserve generating capacity available. (Tr. 303) From these projections, it is evident that the energy cost of the proposed facility is reasonable, particularly when the offset for the demand charge savings is taken into account.

51. With respect to the effects of the proposed facility upon the natural and socioeconomic environments, the evidence in this proceeding establishes

that the environmental impact of the facility will be minimal. The Applicant's environmental consulting engineer, Mr. Bruce Labno, detailed the

environmental impact to be expected from the proposed twenty-five (25) megawatt unit, including its impact on air quality, water quality and noise

level. His testimony indicates that, given the engineering techniques and

pollution control equipment that will be utilized in connection with the facility, this impact will be "relatively minor". (Tr. 215-217) (See, generally, Applicant's ex. 2, pp. 73-80) Moreover, as noted in the findings

above, the environmenal impact of this facility will be significantly less

than that of tne other alternatives considered in this proceeding, except for

the wind alternative.

52. With respect to the expected reliability of the proposed facility,

the evidence in tnis proceeding establishes that the reliability of the proposed facility is at an acceptable level. (See, Applicant's Ex. 4, pp.

13-14) This is reflected, as well, in the testimony of Witness Fuller where

he stated, as follows:

So we feel that the standard combustion gas turbine is well proven that's on the market today. . . . [T]he type we're talking about here would serve very well in this instance, be reliaole. Of course, any machinery can have an outage; but we think we've got maximum results in its functions. (Tr. 329)

consequences of Granting or Denying the Certificate

53. The third criterion deals with the issue of whether the consequences

of granting tne certificate outweigh the consequences of denying the

certificate, considering (a) the relationship of the proposed facility to

overall state energy needs; (b) the impact of the proposed facility upon the

natural and socioeconomic environments compared to the impact of not building

the facility; (c) the effects of the proposed facility in inducing future development; and (d) socially beneficial uses of the output of the proposed

facility, including its uses to protect or enhance environmental quality.

54. With respect to the relationship of the proposed generating facility

to overall state energy needs, it should be noted that the primary benefit of

the Applicant's proposal will be for the community of Owatonna, Minnesota.

However, to the extent that the needs of Owatonna are a part of the overall

state energy needs, a positive relationship is established with respect to

this criterion. An additional factor which further supports the positive relationship of this facility to overall state energy needs was presented by

Mr. Allen Jaisle, Manager of the Power Plant Siting Program for the MEQB.

Mr. Jaisle testified in support of the Applicant's proposed facility stating:

if Owatonna's reliability problems are not adequately resolved, then I expect to see considerable pressure to hurry the regulatory process for the much more critical SMMPA 400 megawatt project. This would be a serious disservice to the citizens of southern Minnesota and specifically to the member municipalities of SMMPA. The proposed combustion turbine approach in Owatonna appears to be a strategy that will effectively resolve the reliability problem of a major SMPPA member municipality and will provide the time for a deliberate and orderly regulatory process for considering the larger SMMPA project. (Tr. 199)

55. The impacts of the proposed generating facility upon the natural and

socioeconomic environments are discussed in Finding 51 above. While not building the proposed generating facility would obviously eliminate the

potential impact upon the natural environment, the long-term socioeconomic impact to the community of Owatonna would be severely detrimental.

56. The next factor to be considered in evaluating the impact of building

the proposed facility is the effects of the facility in inducing future development. Numerous representatives of the Owatonna business community testified that their plans for future development and expansion of their businesses in Owatonna depend upon the availability and adequacy of a reliable

source of electrical power. This is also supported by the testimony of Mr. John McGaheeran, Mayor of the City of Owatonna, the testimony of Ms. Carol Schultz on behalf of the Owatonna Chamber of Commerce, as well as by the testimony of numerous other public witnesses. However, while it is found that

construction of the proposed facility will allow future commercial and industrial development in Owatonna, there is no evidence to indicate that construction of this facility alone will induce future development without the

presence of other traditional economic incentives. Moreover, with respect to

the community of Owatonna, there appears to be a general consensus that future

business growth is considered attractive and actually necessary to maintain the future economic viability of this community. Not one person who testified, from either the residential sector or the commercial-industrial sector, was opposed to the Applicant's plan, even when they were told of the probability of increased electrical bills.

57. The final factor to be considered in weighing the consequences of granting versus the consequences of denying the Certificate of Need is the socially beneficial uses of the output of the proposed facility, including its

uses to protect or enhance environmental quality. There has been a

substantial amount of discussion herein regarding the absolute need for a reliable source of electrical service for the continued health and welfare of

the residents of the City of Owatonna. This is also well reflected in the testimony of Witness Ludwig Gillespie, representative of the Steele County Board of Realtors, who testified:

If a public sanitary sewer is not available in the right kind of land and so forth, septic systems can be used. Wells, pumps, and pressure systems can replace public water supplies. If natural gas isn't available, oil or electricity must be used for heat. But without ample electricity, our whole area's economy would be greatly impaired. (Tr. 247)

The fact that the proposed facility would have socially beneficial uses is amply confirmed by the fact that all public witnesses who testified at the hearing testified strongly in support of the proposed facility and no testimony was submitted by any members of the public or residents of the City

of Owatonna which opposed the construction.

(d) Compliance with Relevant Policies, Rules and Regulations

58. The final consideration to be taken into account in making a Certificate of Need determination is whether:

It has not been demonstrated on the record that the design, construction or operation of the proposed facility, will fail to comply with relevant policies, rules and regulations of other state and federal agencies and local governments. (6 MCAR 2.0611 C.4.)

59. As noted above, the Minnesota Pollution Control Agency, the Minnesota

Department of Transportation and the State Historical Society submitted

written comments at the hearing in this proceedings. No suggestion was made in any of these comments that the proposed facility would fail to comply with

any policy, rule or regulation of these state agencies, although the PCA submission indicated that a number of permits would be required. (Pub. Ex. 1)

60. There was no other showing of current or potential failure of the facility to comply with the laws, policies, rules or regulations of the State of Minnesota or its municipal subdivisions.

61. The only serious problem with regard to this criterion, and the only

serious problem with regard to this entire matter, arises from federal law and

rule. The Powerplant and Industrial Fuel Use Act of 1978, 42 U.S.C. 8301 et

seq, Pub. L. 95-160, 92 Stat. 3289, is applicable to this facility. The purpose of this act is to encourage the expanded use of coal and other alternative fuels in lieu of petroleum and natural gas in the generation of electricity. 8301 (b)). Its basic operative section, 8311, states, in essence:

- (1) Natural gas or petroleum shall not be used as a primary energy source in any new electric power plant; and,
- (2) No new electric power plant may be constructed without the capability to use coal or any other alternate fuel as a primary energy source.

The facility proposed by the Applicant is a "new electric power plant" as defined by the Act and the regulations,² and the only way to escape the basic prohibitions of the Act is through one or more of the exemptions provided in the Act. The exemptions which most closely apply to the Applicant's situation relate to peak load power plants, plants needed to maintain reliability of service, and plants needed for emergency purposes.

Each of these exemptions will be examined in turn, from both the standpoint of the Act and the interim regulations. However, because of the

interim nature of the regulations, readers are cautioned that until final regulations are adopted, many of the statements herein must be treated as only

tentative. Additionally, the final regulations may make some other exemption

available to the Applicant.

62. line exemption for peak load power plants is found at 8322(t) of the

Act. it provides for an exemption under the following conditions:

(a) The Petitioner has certified that the plant is to be used solely as a peak load power plant; and

(b) If natural gas is proposed to be used, then the administrator of the EPA or the appropriate state air pollution agency must certify that the use of coal or any available alternative fuel as a primary energy source will cause, or

2There are a number of sets of regulations which have been promulgated, out the most important set for purposes of this matter are only interim regulations at this point. They are found at 44 Fed. Reg. 28949 I-, 1979). The permanent regulations for this set have not been adopted.

contribute to, an exceedence of a national ambient air quality standard.

The interim regulations, at 503.41, require documentation of the above,

plus a very substantial amount of other material. There is insufficient evidence in the record to conclude whether or not the Applicant would qualify

for this exemption, primarily because of the complexity of the material which

must be submitted to support the application, much of which was not brought forth in this proceeding.

63. The exemption for power plants needed to maintain reliability of service is contained in 8322(f) of the Act. It requires a demonstration that:

(a) The exemption is necessary to prevent impairment of service; and

(b) The Petitioner, despite good faith efforts, is not able to demonstrate the ability to obtain an exemption under two other provisions, relating to lack of alternative fuel supply, site limitations, environmental requirements or adequate capital; or state and local prohibitions against construction or operation using coal or any alternate fuel.

The interim regulations, at 503.40, require a calculation using a technique (loss of load probability) which is based upon available power in an

electrical region. In this case, the electrical region which would be used is

not known with certainty, but it may be as large as the Mid-continent Area Power Pool. The regulations go on to warn petitioners, at 503.40 (d), that:

ERA [Economic Regulatory Administration of the Department of Energy] may refuse to grant this exemption to you if it determines that such grant would not be in the public interest or in accordance with the purposes of the Act, notwithstanding the fact that evidence you have furnished to ERA in your exemption petition substantiates that your facility would otherwise be eligible to receive the exemption.

With such a proviso in effect, this Examiner cannot reach any firm conclusion

with regard to the availability of this exemption. Beyond that, there is insufficient evidence in the record to make the complex calculation required.

64. The exemption for plants needed for emergency purposes is contained

at 8322(e) of the Act. It provides for an exemption if the Petitioner has

demonstrated "that such power plant . . . will be maintained or operated only

for emergency purposes (as defined by rule. . .)"

The regulations, at 503.39(b), define an "emergency" to exist when the

operating utility would be required to curtail non-interruptible electric

supply to its industrial customers. The regulations further require a

certification that emergency operation of the facility will occur only when

non-interruptible electric supply to industrial customers would be

curtailed. The regulations go on to require a very extensive documentation of

other information in order to qualify for this exemption. Again, there was

inadequate evidence in the record to determine whether the exemption would be

available.

65. In summary, the interim regulations for all three exemptions require

extensive documentation and justification, and in at least one case, there is

no assurance that even if all the material were supplied and all the criteria

were met, that the exemption would be granted. The most that can be said in

light of these requirements is that while it has not been definitively shown

that the proposed facility would not comply with federal law or rule, neither has it be shown that it would.

The Act essentially provides, at 8323(b), that if the appropriate "state regulatory authority"³ has not approved a power plant for which an exemption petition has been filed, then any exemption granted shall not take effect until all approvals have been obtained. However, the regulations, at 503.6 (a), make it clear that exemption petitions may be submitted prior to obtaining state approvals.

65. There has been showing of current or potential failure of the proposed facility to comply with any other federal laws, policies, rules or regulations.

Based on the foregoing Findings of Fact, the Hearing Examiner hereby makes the following:

CONCLUSIONS OF LAW

I. To the extent that any of the Findings of Fact contain Conclusions of Law, they are hereby adopted as such.

2. The MEA duly acquired and has jurisdiction of this matter.

3. The Applicant and the MEA Director's staff have fulfilled all relevant, substantive and procedural statutory and regulatory requirements.

4. The Application substantially conforms to the requirements of applicable statutes and rules.

5. It has been demonstrated in this proceeding that there is an established need for the proposed generating facility because:

(a) There is presently a deficiency in reliability in the Applicant's generating system which will worsen with future projected growth of demand on the system; and

(b) Construction of the Applicant's proposed generating facility would correct this deficiency problem.

6. The probable result of denial of the Application would be to affect adversely the future adequacy, reliability and efficiency of the energy supply to the residents of the community of Owatonna, Minnesota.

7. A more reasonable and prudent alternative to the proposed generating facility has not been demonstrated.

8. Both the immediate and the long-term consequences of granting the certificate outweigh the consequences of denying the certificate.

9. It has not been demonstrated on the record that the design, construction or operation of the proposed generating facility will fail to comply with any relevant policies, rules or regulations of other state or

³"State regulatory authority" is defined at 8302(a) (21) to mean a state agency which has rate-making authority with respect to the sale of electricity by a state regulated electric utility, which would appear to mean the Minnesota Public Service Commission in this case.

federal agencies, or local governments with the sole exception of the federal Fuel Use Act and its regulations.

10. All requirements for a Certificate of Need set forth in Minn. Stat. Ch. 116H (1978) and MEA rules promulgated pursuant thereto, have been satisfied with the sole exception of compliance with the federal Fuel Use Act and its regulations.

Based on the foregoing Conclusions of Law, the Examiner hereby makes the following:

R E C O M M E N D A T I O N

NOW, THEREFORE, Based upon the authority vested in the Director by Minn. Stat. Ch. 116H (1978), and 6 MCAR . 2.500-2.520 and 6 MCAR 2.0601-0641, and based upon the complete record of these proceedings, the Hearing Examiner respectfully recommends to the Director, pursuant to Minn. Stat. 15.052, subd. 2, and 9 MCAR 2.218.B., that Owatonna Public Utilities' Application for a Certificate of Need be conditionally granted, as submitted, and that a conditional Certificate of Need be issued to Owatonna Public Utilities for construction of a nominally rated twenty-five (25) megawatt standby and peaking generating facility, as described and set forth in the Application, subject to the sole condition that the Applicant demonstrate to the Director that the design, construction or operation of the proposed facility, or a suitable modification thereof, does not fail to comply with the Powerplant and Industrial Fuel Use Act of 1978 and its associated regulations. Such demonstration shall be made not later than April 15, 1982.
Dated this day of January, 1980.

ALLAN W. KLEIN
Hearing Examiner

MEMORANDUM

The Applicant has amply demonstrated its compliance with 116H.13 and the Agency's rules with the sole exception of the Fuel Use Act problem. The Examiner was impressed with the unanimous and wide-ranging support for the facility by the affected community and the conservation efforts undertaken by a number of the substantial commercial and industrial users within the community. Although the Applicant's residential conservation program has not yet progressed to the point of the commercial-industrial program, there is no reason to believe that it will not progress in a timely manner.

The April 15, 1982 date was selected because of the substantial amount of documentation required by the Fuel Use Act regulations. There was no evidence in the record regarding the amount of time that would be required to prepare this documentation, nor was there any evidence regarding the amount of time which the DOE might take in processing the petitions for exemption. Therefore, this date is somewhat arbitrary. It is based solely upon the Examiner's evaluation of the regulation. Should the Director have knowledge of any firmer basis for selecting a date, he is urged to modify the Examiner's date accordingly. However, the Examiner believes that some date ought to be set in order to avoid complications in future related applications.